CHAPTER – III

RESEARCH METHODOLOGY
RESEARCH METHODOLOGY

This study deals with the field aspects of a social experiment. Unlike one short survey, it provides valuable “intelligence” gathered during the experimental period about factors, which would cause the change, keeping one or several variables constant.

In almost any multiple regression equation in the social sciences, there is a high level of indeterminacy, and a high proportion of variance not explained. This leaves a great deal of room for the “intuition” of the social scientist.
The flowchart below illustrates the methodology for the current study presented in subsequent pages:
I. Assumptions For The Study

- Early exposure to literary skills development leads to prior reading ability, phonological awareness and verbal reasoning ability.
- Developing literary skills at the preschool level is a crucial foundation for continued success in school environment.
- Children who are read to in their preschool years have more knowledge of print and better reading skills when they start school.
- Parents reading aloud help their children to learn vocabulary, complex sentence structure and story structure.
- Parents reading aloud helps foster curiosity about words, introduce children to pleasure of reading and makes them familiar with language patterns, richness of literature and lastly inculcates a life-long love of reading.
- Parents need to be educated to make reading a priority at home.
- Parents should be educated with literary skills and strategies to stimulate their children for strong literary foundation at homes.

II. General Problem

- Mothers spend most of the time with their children focussing on basic care, but often neglect to enrich their children’s literary skills and provide a stimulating home environment, for developing literary skills.
Many a times, mothers do not know how to develop literary skills in their children from very early years and hence fail to provide rich, language stimulating, print rich environment at home from birth.

Most mothers are not aware of the importance of phonological development in the early years and hence do not make reading a priority in their child’s life.

Among the readiness skills cited by teachers as lacking in students, deficiencies in language were considered the most serious problem.

Research shows that children who start out slowly in literacy skill testing often fail to catch up, and that this trajectory of early failure continues throughout childhood and into the adult years (Neumann & Celano, 2001).

A poor foundation in literacy prior to school entry not only reduces the likelihood of later success in literacy, but also increases the risk of children ‘dropping out’ of formal education. Poor reading and writing skills are associated with lower self esteem, poorer educational and social outcomes, and higher rates of unemployment.

Children entering school without emergent literary skills may struggle to keep up with their peers’ rate of literary acquisition. This can affect children’s engagement with school and in turn, affect overall successes in education and life.
III. Relevant Theories And Research Findings Considered For The Present Study

Theoretical Perspectives influencing Preschool Children

Child Development Theories
- Psychoanalytic Theory
- Cognitive Theory
- Behaviourist Theory
- Psychosocial Theory
- Maturational Theory

Learning Theories
- Maturational Theory
- Environmentalist Theory
- Constructivist Theory
- Social Learning Theory
- Multiple Intelligence Theory

Early Literacy Theories
- Maturationist Theory
- Behaviourist Theory
- Connectionist Theory
- Social Constructivist Theory
- Emergent Literacy

Theories on Teaching Methods
- Maturational Theory
- Behaviorist Theory
- Connectionist Theory
- Social Constructivist Theory
- Emergent Theory

- Environmentalist Theory
- Constructivist Theory
- Social Learning Theory
- Multiple Intelligence Theory
- Developmental Theory

Current Study Built on these Theories
- Environmentalist Theory
- Constructivist Theory
- Social Learning Theory
- Connectionist Theory
- Developmental Readiness Theory
- Emergent Theory

Amalgamating the above theories the following concepts have been applied in the current research
- Literary learning begins early in life and is acquired best through meaningful literary related activities
- Rich literary environment at home shapes learning and development
- Parents involvement in reading and story-telling activities to their children encourage the children’s participation in daily literary activities and nurture a love for literature
- Children learn literary skills and activities by observing, imitation and modelling
- Literary development is built on a sequence of skills and experiences
- Basic literary skills are learnt best through direct systematic instruction and practice

Development of the current theory proposed in the present research
From the following theories, the current research’s concepts were formulated

**Psychoanalytic Theory-Sigmund Freud**

- Stressed the importance of childhood events and experiences
- Personality is mostly established by the age of five
- Early experiences play a large role in personality development.

**Implication for the present research**

This theory states that early childhood events and experiences play a significant role in shaping up the development.

In the present study, researcher educated mothers and got them to get involved with their children in early literary skill development and enrich their child’s experiences with interesting learning activities.

**Cognitive Theory- Jean Piaget**

- Child acquires knowledge by interacting with the world
- Children learn through assimilation and accommodation
- Children need to be active participants in their own learning.

**Implication for the present research**

This theory suggests that children acquire knowledge by interacting with the surroundings and absorb new information if they are active participants in their own learning.

In the present study, researcher trained mothers to interact with their children and to provide them with interesting literary opportunities to
participate actively in their own learning. Children were provided environment at home from where they could absorb and learn from role models and best practices resulting in better literary interest.

**Behaviourist Theory- John B. Watson, Ivan Pavlov and B.F. Skinner**

- Environmental interaction influences behaviour
- Children learn language by repeating words and sentences
- Emphasis on breaking down complex tasks, such as learning to read

**Implication for the present research**

This theory states that children learn when they interact with the environment. Children learn better when complex tasks are broken down into simple steps and through repetition. In the present study researcher trained mothers to teach their children oral language through repetition and taught them simple steps to develop an interest in literary activities in children.

**Psycho-Social Theory- Erikson**

- Considers the impact of external factors, parents and society on personality development from childhood to adulthood
- Child and the caregiver whose ability to care and bond consistently with the child will help the former develop a sense of trust.
Implication for the present research

This research suggest that external factors, parents and society have a significant influence on a child’s personality development from childhood to adulthood and, to develop trust parents need to bond with their children consistently.
In the present study, researcher trained the mothers to improve the quality and quantity of touch points with their children with respect to development of literary interest by practicing simple methods that improved bonding and building a two way trust.

Maturational Theory-Arnold Gessell

- Development is a biological process that occurs automatically in predictable, sequential stages over time.
- Families are encouraged to recite the ABC’S and use words so the child can naturally learn them.
- Believe that all healthy children will be ready for kindergarten if taught with patience.

Implication for the present research

This theory states that children develop in sequential stages. Families can encourage their children to learn better by recitation of alphabets/words and exhibition of patience while teaching them. In the present study, researcher coached mothers to teach their children by reciting poems, rhymes and songs in order to build phonic awareness.
Multiple Intelligence Theory-Dr. Howard Gardner

- Suggest that children can be intelligent in different ways and that each child has strengths but also weaknesses
- Ensure that the curriculum plays on the strengths of each child in the class
- A skill can be taught to a class in a variety of ways to ensure that all children understand the concept.

Implication for the present research

This theory suggests that some people have all seven types of intelligence mentioned above and others have fewer. They believe that most people can acquire a type of intelligence in which they may not be strong, but they need different learning experiences.

In the present research, researcher educated mothers that when they teach children literary skills they need to remember that not all children learn in the same way. Therefore it is important to provide many experiences to meet individual needs.

Social Constructivist Theory- Vygotskian

- Children construct knowledge within a socially mediated cultural context.
- Language is a key component in children’s appropriation of knowledge.
• Knowledge is constructed most effectively when adults scaffold, or support, children’s development at appropriate levels.
• Children acquire knowledge with the assistance of an adult or more experienced peer within a continuum of behaviour called the zone of proximal development.

Implication for the present research

Language is a significant component in children’s knowledge development and a basis for literacy acquisition. And this can be acquired effectively through adults support and interactions.

In the present study, researcher emphasized to the mothers to promote early language development through interaction with children by modeling, encouraging, motivating and supporting them.

Environmental theory – John Watson B. F, Skinner and Albert Bandura

• Believe that child’s environment shapes learning and behaviour
• Children acquire new knowledge by reacting to their surroundings
• Child’s environment / surrounding shapes his / her learning and development.
Implications for the present research

This theory believes that child environment shapes learning and behavior. They acquire new knowledge by reacting to their surroundings.

In the present study, researcher educated parents to provide enriched literary environment at home that shapes learning and development and to prepare the environment with appropriate materials and experiences for learning.

Constructivist Theory- Jean Piaget

- Believe that children learn when they interact with the world, people and their surroundings
- Children initiate most of the activities required for learning and development and children are active participants in the learning process.

Implications for the present research

This theory states that learning and development occur when young children interact with the environment and people around them. Active interaction with environment and people, that is parents or adults are important for learning and development.

In the present research, researcher educated mothers to involve in reading and story-telling activities with children and encourage them to participate in daily literary activities to nurture a love for literature.
Social learning Theory - Albert Bandura

- Suggests that children learn new behaviours through rewards or punishments
- Children can learn simply by observing
- If children observe a positive outcome for their peer’s positive action they are more likely to model, imitate or adopt behaviour themselves.

Implications for the present research

This theory believes that children learn new behaviors through rewards or punishments and suggest that children can learn simply by observing, imitation and modeling.

In the present study, researcher emphasized to mothers that learning requires time on task, structure, routines, and practice. Researcher also stressed that literary skills and activities can be learned through imitation and association, and through conditioning, or a series of steps that are repeated so the response become automatic.

Connectionist Theory-Edward C. Thorndike and Adams

- Knowledge is built on a sequence of skills and experiences
- Children are taught reading and writing through direct, explicit skills instruction following a predetermined scope and sequence.
Implication for the present research

This theory states that literacy knowledge is built on a sequence of skills and experiences. And these skills are taught through direct, clear instruction.

In the present research, researcher educated mothers about literary skills and activities to be taught to their children at home through direct, explicit skills instruction following a predetermined scope and sequence.

Developmental Readiness Theory-Piaget

- Reading is learned best through direct systematic instruction and practice.
- A period of preparation is necessary before formal reading instruction can take place.
- The act of reading can be broken down into a series of isolated skills.

Implication for the present research

This theory emphasizes that children cannot learn something until maturation gives them certain pre-requisites. These skills are taught systematically on the assumption that all children are at a fairly similar level of development when they come to preschool or kindergarten.

In the present research, researcher focused on highly structured, sequentially organized literary skills and activities during intervention
program. This period of preparation is necessary for children before formal reading instruction can take place in kindergarten program.

**Emergent Theory- Marie Clay**

- Literacy learning begins very early in life
- Children acquire literacy best through meaningful literacy related activities.

**Implication for the present research**

Literacy learning begins very early in life and is an ongoing process. Children acquire literacy skills best through meaningful, literacy related activities with adults.

In the present research, researcher encouraged mothers to emphasize on social interaction with their children and expose them to literary materials such as story books and print related activities.

**IV. Specification of Problems and Objectives of the Study**

**Specification of Problems**

To foster reading habits among pre-schoolers through educating mothers to

- Provide stimulation to reading
- Enrich their literary knowledge, attitude and practices
- Enrich their home environment through shared reading
Objectives of the Study

The broad objective of the research study was to educate mothers to provide basic stimulation to reading and enriching the literary environment of their pre-schoolers.

The specific objectives of the study were to:

- Elicit information on literary and library facilities available in preschools across Bangalore city
- Assess parents approach towards creating literary awareness and literary practices for their pre-schoolers.
- Assess the home literary environment of families with preschool children
- Develop training modules for educating mothers toward enriching the literary environment of their pre-schoolers
- Educate mothers to make reading a priority in their pre-schooler’s lives to foster a literary rich environment.
- Encourage families through mothers to develop practices and activities that promote appreciation of literature in their homes.
- Assess the literary skills among pre-schoolers after educating mothers.
V. Scientific Hypothesis and Model
The current study theorises that the Home is the fertile ground where the seeds of a preschool child’s literary development are sown. For the seeds to grow, into a towering plant, two components need to take root namely, the mother’s (parent’s) literary awareness and the home literary environment. These two components can be anchored firmly to the ground through educating mothers on the importance of language development, print knowledge, phonics, alphabet awareness, reading materials, books, modelling, imitation, observing and being a reading role model, to harvest the fruits of the Child’s literary development i.e. language acceleration, vocabulary and comprehension, general knowledge, self esteem, social skills, academic success and reading achievement.

**Hypothesis**

The experimental group is expected to gain knowledge in literary strategies and techniques, and play a critical role in providing young children with best practices and skills in literary acquisition. Theoretically, the mothers participating in the experimental program are expected to show significant improvements in literary awareness and able to foster appreciation of literature among pre-schoolers.

Further it was hypothesized that,

- Preschool centres do not have adequate library facilities in their preschools.
- Preschool centres do not foster literary awareness in their preschools.
• The intervention program will not influence mothers’ awareness on the methods of fostering literary awareness in their pre-school children.
• The intervention program will not influence mothers’ perception towards reading to their children.
• The intervention program will not influence mothers’ knowledge on providing a literary rich home environment.
• The intervention program will not influence mother’s attitude towards fostering a literary rich home environment.
• The intervention program will not influence the mothers’ to adopt the practicing of right techniques for providing a literary rich home environment.
• Child initiated book selection for shared reading leads to increased interest and recall.
• Increased interest in shared reading leads to increase in duration of time spent in shared reading.
• Educating mothers toward enriching the literary environment of pre-schoolers through providing basic stimulation to reading will not foster appreciation of literature among pre-schoolers.
VI. Scope of the Study

The foundation for literary development is set during pre-school years and it is during this time that young children develop the skills that will help them be successful in future school years. Whereas it was once thought that children learned to speak and listen during their early years and later learned to read and write at school age, research evidences (Schickedanz 1999, Hollich & Houston, 2007) today show they can develop literary related abilities simultaneously from infancy.

Literary development is an important skill that needs to be developed in children. Experiences with books are of significant importance to infants, toddlers and preschool children in the development of literary skills and good reading habits. Not only is it necessary for survival in the world of schools and later on universities, but in adult life as well.

Early exposure to literary skills development leads to prior reading ability, phonological awareness and verbal reasoning ability. Developing literary skills at the pre-school level is a crucial foundation for continued success in school environment. Families are children’s first educators and play a critical role in young children’s literary development. Young children’s success in literary awareness is related to their early literary experiences in the home. Family literary practices determine young children’s literary skills prior to formal instruction.

The home is the first and most important learning environment of all. It is the parents who have the major responsibilities for instilling in
their children a love of reading that will last all their lives. As parents, the most important thing they can do is read to their children early and often. Success of our future children depends significantly on home experiences and social interactions during early childhood years.

Reading to children helps children learn the difference between written and oral language, print concepts, learn vocabulary, complex sentence structure, story structure, familiarity with language patterns, richness of literature and lastly life-long love of reading. However, mothers spend most of the time with their children focusing on basic care, but often neglect to enrich their children’s literary skills and provide a stimulating home environment, for developing literary skills. Many of the mothers do not have as much time as they would like in order to read to their children. Also, most parents do not know how to help their children prepare for school, learn reading and counting skills as they do not realise the importance of helping their child learn before they start school.

Therefore the present research was designed to draw empirical data on the influence of an intervention program towards educating mothers to provide basic stimulation to reading and enriching the literary environment of pre-schoolers.
VII. Conceptual and Operational Definitions

Literary
The term “Literary” in the context of this research pertains to all aspects of a child’s ability to exhibit reading skills, understanding of language and its different nuances such as language components, construction (phonological and grammatical), composition in spoken or print format, vocabulary and letter knowledge.

Literary Environment
An environment that encourages a child to absorb literary skills such as book awareness, building a vocabulary, comprehension and expression.

Parent Literary Awareness
Awareness, which one or both parents of a child have with respect to knowledge about aspects related to books, reading or any literary fostering activity.

Home Literary Environment
Is the environment that exists at the home of a child with respect to reading, books or general attitude towards reading by parents or any other family member.

Phonemic Awareness
The ability to understand that spoken words and syllables are made up of basic sounds of speech called phonemes (Wood & McLemore, 2001).
Alphabet Knowledge

Knowing the names and sounds associated with printed letters.

Environmental Print

The print of everyday life, such as the letters, numbers, shapes, and colours found in logos and signs for products in stores.

Phonological Awareness

Is the ability to detect, manipulate, or analyse the auditory aspects of spoken language (including the ability to distinguish or segment words, syllables or phonemes) independent of meaning.

Print Knowledge

A skill reflecting, a combination of elements of alphabet knowledge, concepts about print, and early decoding.

Oral Language

The ability to, produce and comprehend spoken language including vocabulary or grammar.

Shared Reading

Shared reading is a collaborative reading activity wherein the reader is typically one of the parent or even the teacher and the child being read to follows along reading the text and listening.
**Interest Level**

Is the measurement of interest behaviour that a child displays during a reading session. The behaviour that shows a child’s interest in a reading session are: level of excitement that the child shows when listening to a story, number of questions the child asks when reading a story, making eye contact while listening to a story, asking for parts of story to be repeated.

**Recall Level**

Is the measurement of the amount of recall that a child displays following a shared reading session. Recall refers to the child’s ability to talk on the topic, answer simple questions about the story, and display an understanding of the story.

**Dropouts**

Mothers, who participated in the experimental program for some duration and did not attend, even 90% of the classes.

**Module**

A series of standardized units for use together as educational units, that cover a single subject or topic.

**Participant**

Those who agreed to participate in the intervention program at the time of bench mark survey and participated in at least 90% of the classes with in the duration of the program.
VIII. Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It constitutes the blueprint for the collection, measurement and analysis of data. The major issue in research is the preparation of the research design for the research project. Decision regarding what, where, when, how much, by what means concerning an enquiry or a research study, constitute a research design.

The present study has been designed around two basic parameters – action program and research. During the action program, data was collected and records maintained, which were used for research. The research program had four components.

- The survey of the pre-schools
- The development of tools
- The intervention program and
- Assessment of the literary skills of pre-schoolers whose mothers attended the intervention program.
IX. Population and Sampling

Samples are smaller groups selected from populations. Samples are used in research when it is not feasible to study the entire population. Since the sample is intended to reflect the characteristics of the population, special care is taken in its selection. Members of the sample are usually selected randomly from the population, a procedure that usually, but not always, yields a sample representative of the population.

In the present study, multistage sampling was followed. Sampling was carried out in six stages as indicated below:

Stage 1: Selection of pre-schools to carry out a preliminary survey to, assess the pre-schools approach towards fostering literary development in pre-schoolers.

Initially, a survey was carried out using the internet searches to identify pre-schools in and around the four zones of Bangalore city. From this survey 60 pre-schools were randomly identified. The researcher then, personally called up or visited the pre-schools identified to seek their cooperation in filling out the pre-school survey questionnaire to assess the approach they followed to foster literary development in pre-schoolers. The first 30 preschools that readily agreed to fill up the developed questionnaire, were short listed for the study. Thus nine Montessori preschools, eight Kindergarten preschools, eight play-way preschools and five crèches were selected for the present study (N=30).
Stage 2: Selection of mothers with preschoolers for standardising the Parent Literary Awareness checklist and the Home Literary Environment checklist developed.

Two tools were developed during “Construction of Measuring Instrument”: the Parent Literary Awareness Questionnaire and the Home literary environment checklist to assess the mothers of preschoolers for their literary awareness and Home literary environment. To standardise these tools, 550 mothers with preschool aged children were selected through cluster sampling.

Cluster Sampling is a sampling strategy (a way to gather participants for a study) used when it is difficult to individually identify every person in a sample, and naturally-occurring groups are available.

Preschools, apartments and neighbourhoods were the places from where the clusters were drawn for this stage of sampling. The researcher personally handed over the checklists at the clusters identified, clarified doubts and collected back the filled in checklists.

Stage 3: Selection of preschool to, carry out the intervention program

The selection of pre-school to carry out the intervention program was done through purposive random sampling.

Purposive random sampling is one, in which the selection of the sample is based on the judgement of the researcher as to which subjects best fit the criteria of the study.
For selecting a preschool which would be conducive to conducting the experimental design, the researcher set certain norms. They were Logistic convenience, whole hearted co-operation from the administrators / management of the school, medium of instruction and similarities in the type of schooling offered. Five schools were short listed for the experimental study. To ensure randomness, lottery method was used to identify the school for the experimental study. It was decided that the first chit picked would be selected for the experimental study from the short listed five. Thus Titan school was selected for conducting the experimental study.

Stage 4: Selection of participants (Mothers with pre-school children) to participate in the experimental (intervention) program.

Purposive sampling was used to identify the participants for the experimental study.

Mothers of pre-school children studying at the Titan school, were asked to assemble at the school auditorium for an introductory session of the research program. Ninety one parents attended the introductory session. During the introductory session, the researcher outlined the proposed research study to the prospective participants (mothers). The developed schedule of the experimental program was made available to the participants. After going through the schedule designed for the experimental program, Seventy seven mothers indicated their willingness to participate in the experimental program. These mothers were selected for the experimental program, as the researcher opined
that voluntary participation would yield better results than captive participation.

**Stage 5: Identification of pre-school teachers to, assess the literary development of preschoolers, whose mothers had participated in the experimental program.**

To identify pre-school teachers to assess the literary skills of preschoolers whose mothers had participated in the experimental program, purposive sampling was carried out. The preschoolers had moved to the next grade, at the end of the academic year, and the new grade teachers of the children whose mothers had participated in the experimental program were asked to assess and compare the performance of children whose mothers had attended the experimental program with those children whose mothers had not attended the experimental program, using the Teacher’s checklist developed and standardised in Construction of Measuring Tools.

In this stage eight preschool teachers i.e pre-nursery classes (2 teachers), LKG (2 teachers), UKG (2 teachers), and 1st grade (2 teachers) were purposively selected for the present study.

**Stage 6: Selection of experimental and control group preschool children for assessment of literary skills by the preschool teachers identified in phase -5 and thus draw conclusion on the impact of the intervention program.**

Purposive sampling was done to identify the experimental and control group pre-school children. The experimental group had 61 children (Pre-nursery -10 children; LKG 15 children; UKG -17 children and
1st grade -19 children) whose mothers had participated in the experimental program for one academic year. These children were compared with children whose mothers had not attended the experimental program (control group) and comprised of 40 children (Pre-nursery -10 children; LKG -10 children; UKG -10 children and 1st grade -10 children.

The flowchart summarises the steps involved in the sampling process for the present study.
Population & Sampling

(764)

Pre-school Survey
30 Schools
N, S, E, W

Selection of 25 Pre-Schools

Tools Standardization
PLAO, HLEC, TC
(550)

25 Preschools
(376)
6 Neighborhoods
(30)
22 Apartments
(94)

Titan School

Influence of Intervention on Children
3 Teachers

Experimental Group
(54)

Control Group
(40)

Experimental Group
(51)

Prenursery
(10)
LKC
(15)
UKG
(17)
1st Grade
(19)

Prenursery
(10)
LKC
(10)
UKG
(10)
1st Grade
(10)
X. **Construction of Measuring Instrument**

Nine tools were developed (in English) for the study

**Tool 1: Preschool survey questionnaire**

A self designed questionnaire was developed by the researcher to elicit information on the approaches adopted by the pre-schools to foster literary appreciation in their pre-school centres. After an extensive review of related literature 102 statements were shortlisted for developing the questionnaire. These shortlisted statements were given to subject experts for scrutiny and review. The statements for scrutiny and review were presented in the following format to the subject experts.

<table>
<thead>
<tr>
<th>Statements</th>
<th>To Be Retained</th>
<th>To Be Modified</th>
<th>To Be Deleted</th>
</tr>
</thead>
</table>

Following the review by the subject experts 25 statements were finally shortlisted for the pre-school survey questionnaire. The final statements shortlisted had both open ended and closed ended questions.
The finalised pre-school survey questionnaire assessed the preschools for the following dimensions.

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Number of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Background data of the preschool centre</td>
<td>4 Statements</td>
</tr>
<tr>
<td>2</td>
<td>story telling session.</td>
<td>4 Statements</td>
</tr>
<tr>
<td>3</td>
<td>Library facilities</td>
<td>6 Statements</td>
</tr>
<tr>
<td>4</td>
<td>General Parent- teacher interaction</td>
<td>4 Statements</td>
</tr>
<tr>
<td>5</td>
<td>Parent- teacher interactions for fostering literary development</td>
<td>5 Statements</td>
</tr>
</tbody>
</table>

**Tool 2: Parents Literary Awareness Questionnaire**

Extensive review was carried out on the various scales available to elicit information on parents’ literary awareness and practices. Based on the reviews, the researcher developed the parent’s literary awareness questionnaire, compatible for the Indian context and suitable for present study.

**Description of the tool**

The self designed tool was developed by the researcher to assess parents approach towards creating literary awareness and literary practices for their pre-schoolers.
The developed tool had both open ended and closed end questions consisting of 26 statements.

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<thead>
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<th>#</th>
<th>Description</th>
<th>Number of Statements</th>
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</thead>
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<tr>
<td>1</td>
<td>Socio demographic data</td>
<td>6 Statements</td>
</tr>
<tr>
<td>2</td>
<td>Right Age</td>
<td>1 Statement</td>
</tr>
<tr>
<td>3</td>
<td>Parents Attitude towards School Selection and Voluntary Participation</td>
<td>2 Statements</td>
</tr>
<tr>
<td>4</td>
<td>Methods of Fostering Literary Awareness</td>
<td>7 Statements</td>
</tr>
<tr>
<td>5</td>
<td>Parents Perceptions towards Reading to Children</td>
<td>2 Statements</td>
</tr>
<tr>
<td>6</td>
<td>Children’s Literary Interest</td>
<td>3 Statements</td>
</tr>
<tr>
<td>7</td>
<td>Parents as Role Models for Fostering Literary Awareness</td>
<td>5 Statements</td>
</tr>
</tbody>
</table>

**Scoring procedure**

The Parents Literary Awareness Questionnaire has 26 questions that parents had to respond to. The first six questions in the questionnaire elicited information on the socio-demographic profile of the respondent.
These questions were not assigned scores for responses. Questions 7 to 26 were assigned scores.

<table>
<thead>
<tr>
<th>#</th>
<th>Dimensions</th>
<th>Scores allotted Max</th>
<th>Min</th>
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<td>1</td>
<td>Socio demographic data</td>
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<tr>
<td>2</td>
<td>Right Age</td>
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<td>Methods of Fostering Literary Awareness</td>
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<tr>
<td>6</td>
<td>Children’s Literary Interest</td>
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<td>01</td>
</tr>
<tr>
<td>7</td>
<td>Parents as Role Models for Fostering Literary Awareness</td>
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<td></td>
<td><strong>Total</strong></td>
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(For individual item scoring refer Appendix xiv)

**Categorisation of Scores**

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<th>Categorisation</th>
<th>Range</th>
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<tbody>
<tr>
<td>Excellent</td>
<td>61 and above</td>
</tr>
<tr>
<td>Very Good</td>
<td>46-60</td>
</tr>
<tr>
<td>Good</td>
<td>31-45</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>16-30</td>
</tr>
<tr>
<td>Poor</td>
<td>15 and below</td>
</tr>
</tbody>
</table>
Tool standardisation Procedure

Phase I - Face Validation

This was the first stage in tool standardisation. In this stage, the researcher looked at the operational feasibility and checked whether "on its face" it seemed like a good translation of the tool.

Phase II - Content Validation

90 statements were identified initially. These statements were given to subject experts in the field of Psychology, Human development and Education for scrutiny. Based on their inputs, 26 statements were short listed for the present study. The scrutiny of the statements was carried out by subject experts in the format shown below. The completed table is in Appendix xv.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Not relevant(score 1)</th>
<th>Relevant(score 5)</th>
<th>Aiken`s Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>E2</td>
<td>E3</td>
<td>E4</td>
</tr>
</tbody>
</table>

Content validity was done with 5 subjects matter experts. Aiken’s index was performed on each item of parents literary awareness questionnaire ranging between 0.667 – 1.000.
Phase III - Establishing Reliability

Split-half reliability was carried out on parents’ literary awareness questionnaire, to obtain its reliability. Data obtained indicated the reliability score to be 0.826.

Tool 3: Home Literary Environment checklist

Description of the tool

After extensive review of related literature, the researcher developed the Home Literary Environment checklist compatible for the Indian context and suitable for the present study. The self designed tool was developed by the researcher to assess the Home Literary Environment of families with pre-school children.

The developed tool had both open ended and closed end questions consisting of 56 statements.

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Knowledge</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge on Home Literary Environment</td>
<td>3 Statements</td>
</tr>
<tr>
<td></td>
<td>Knowledge on Methods of Fostering Literary Skills</td>
<td>6 Statements</td>
</tr>
<tr>
<td></td>
<td>Knowledge about role of parents in Fostering Literary Skills</td>
<td>6 Statements</td>
</tr>
<tr>
<td>2</td>
<td><strong>Attitude</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attitude of Parents towards Role of School / Teachers</td>
<td>4 Statements</td>
</tr>
<tr>
<td></td>
<td>Attitude towards Fostering Literary Skills</td>
<td>6 Statements</td>
</tr>
<tr>
<td></td>
<td>Attitude towards Books for Fostering Literary Skills</td>
<td>3 Statements</td>
</tr>
<tr>
<td>3</td>
<td><strong>Practice</strong></td>
<td></td>
</tr>
<tr>
<td>Availability of Materials for Fostering Literary Skills at Home</td>
<td>7 Statements</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Personal Interaction for fostering Literary Skills</td>
<td>10 Statements</td>
<td></td>
</tr>
<tr>
<td>Methods of Interaction used to Foster Literary Skills</td>
<td>11 Statements</td>
<td></td>
</tr>
</tbody>
</table>

**Scoring procedure**

The checklist had three response options “Agree“, “Disagree” and “Not Sure”. The responses are scored as 2 (Agree), 0 (Not sure) and 0 (Disagree).

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Max score</th>
<th>Min score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge on Home Literary Environment</td>
<td>06</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Knowledge on Methods of Fostering Literary Skills</td>
<td>12</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Knowledge about role of parents in Fostering Literary Skills</td>
<td>12</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>Attitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attitude of Parents towards Role of School / Teachers</td>
<td>08</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Attitude towards Fostering Literary Skills</td>
<td>12</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Attitude towards Books for Fostering Literary Skills</td>
<td>06</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26</td>
<td>00</td>
</tr>
<tr>
<td>3</td>
<td>Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability of Materials for Fostering Literary Skills at Home</td>
<td>14</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Personal Interaction for fostering Literary Skills</td>
<td>20</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Methods of Interaction used to Foster Literary Skills</td>
<td>22</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>56</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Grand total</td>
<td>112</td>
<td>00</td>
</tr>
</tbody>
</table>
Categorisation of scores

<table>
<thead>
<tr>
<th>Categorisation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>90 and above</td>
</tr>
<tr>
<td>Very Good</td>
<td>68-89</td>
</tr>
<tr>
<td>Good</td>
<td>46-67</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>23-45</td>
</tr>
<tr>
<td>Poor</td>
<td>22 and below</td>
</tr>
</tbody>
</table>

Tool Standardisation procedure

Phase I - Face Validation

This was the first stage in tool validation. In this stage / step, the researcher looked at the operational feasibility and checked whether prima facie it seemed like a good translation of the tool conceived to be designed.

Phase II - Content Validation

145 statements were identified, initially. These statements were given to subject experts in the field of Psychology, Human development and Education for scrutiny. Based on their inputs, 56 statements were short listed for the present study. The scrutiny of the statements was carried by subject experts in the format shown below. The completed table is in Appendix xvi.
<table>
<thead>
<tr>
<th>Statements</th>
<th>Not relevant(score 1)</th>
<th>Aiken’s Index</th>
<th>Item-total correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>E2</td>
<td>E3</td>
<td>E4</td>
</tr>
</tbody>
</table>

Content validity was done with 5 subjects matter experts. Aiken’s index was performed on each item of home literary environment checklist) ranging between 0.500 - 0.917.

**Phase III - Reliability**

Split-half test of reliability was carried out on the Home Literary Environment checklist. The test of reliability was observed to be 0.902.

**Tool 4: Daily Reading Log**

The reading log template was developed by the researcher to measure the time spent on daily reading to/by children. This log was used to record attributes of a reading session such as duration of time, interest and recall level of the child who has been read to, in a session. This was designed to be initiated at the start of the intervention program and continue for three months after the conclusion of the intervention program. Interest level and recall level of the child during shared reading was analysed. These levels were scored on a daily basis, during shared reading sessions. The scoring was on a scale of 1 – 4. The scoring was gauged based on the child’s response to questions that were asked by the mother which gave an indication as to the interest and recall level. A Score of one was the lowest and, four
being the highest. To ensure the content validity of data, the items that were created for the study were derived from the review of literature on the topic titled “Parents influence on child interest in shared picture book reading”.

Note: The researcher had researched on “Parents influence on child interest in shared picture book reading” for her Master’s degree in the US.

<table>
<thead>
<tr>
<th>Daily Reading Log Template</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong> :</td>
</tr>
<tr>
<td><strong>Standard</strong> :</td>
</tr>
<tr>
<td><strong>Week (Sunday – Saturday)</strong></td>
</tr>
<tr>
<td>(1) Date</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Tool 5: Interest Ranking Inventory

This tool was developed by the researcher to assess reading interests of children before and after the intervention program. The Interest Ranking Scale consisted of 15 statements which were to be ranked in the order of preference as observed in the pre-schoolers, by the mothers. This list was derived from the review of literature on the topic titled “Parental influence on child interest in shared picture book reading”. Parents ranked the activities from one to fifteen (1-most interested; 15 – least interested) based on their pre-school child’s interests.

Tool 6: Checklist for evaluating the practical sessions

A checklist was designed by the researcher to evaluate and provide feedback to the participants on their communication skills while narrating stories to pre-schoolers during the practical sessions.

Tool 7a &7b: Teacher’s Checklist for children aged 3-4 yrs and 4-6 years.

Teacher’s checklist for ages 3-4 and 4-6 was developed to compare and evaluate the literary skills of pre-schoolers whose mothers had participated in the experimental program, with pre-schoolers whose mother’s had not participated in the experimental program to assess the influence of the experimental program.
Tool 7a: Teacher’s Checklist for children aged 3-4 yrs

This tool developed by the researcher contained 26 statements.

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Language awareness</td>
<td>7 Statements</td>
</tr>
<tr>
<td>2</td>
<td>Alphabet and book knowledge</td>
<td>4 Statements</td>
</tr>
<tr>
<td>3</td>
<td>Reading activities and skills</td>
<td>9 Statements</td>
</tr>
<tr>
<td>4</td>
<td>Print and writing awareness</td>
<td>6 Statements</td>
</tr>
</tbody>
</table>

Scoring procedure

The checklist had three response options with scoring, “Always” (2), “Sometimes” (1) and “Never” (0).

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Statements</th>
<th>Max score</th>
<th>Min score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Language Awareness</td>
<td>7</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Alphabet and Book Knowledge</td>
<td>4</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Reading Activities and Skills</td>
<td>9</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Print and Writing Awareness</td>
<td>6</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Grand total</td>
<td></td>
<td>52</td>
<td>0</td>
</tr>
</tbody>
</table>

Categorization of Scores

<table>
<thead>
<tr>
<th>Categorisation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>41 and above</td>
</tr>
<tr>
<td>Very Good</td>
<td>31 – 40</td>
</tr>
<tr>
<td>Good</td>
<td>21 – 30</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>11 – 20</td>
</tr>
<tr>
<td>Poor</td>
<td>10 and below</td>
</tr>
</tbody>
</table>
Tool 7b: Teacher’s checklist for children 4-6 yrs

This tool developed by the researcher contained 33 statements.

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Language development</td>
<td>5 Statements</td>
</tr>
<tr>
<td>2</td>
<td>Alphabet knowledge</td>
<td>6 Statements</td>
</tr>
<tr>
<td>3</td>
<td>Print and writing awareness</td>
<td>12 Statements</td>
</tr>
<tr>
<td>4</td>
<td>Listening and story techniques</td>
<td>10 Statements</td>
</tr>
</tbody>
</table>

Scoring procedure

The checklist had three response options with scoring, “Always” (2), “Sometimes” (1) and “Never” (0).

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Statements</th>
<th>Max score</th>
<th>Min score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Language Development</td>
<td>5</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Alphabet Knowledge</td>
<td>6</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Print and Writing Awareness</td>
<td>12</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Listening and Story Techniques</td>
<td>10</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Grand total</strong></td>
<td><strong>66</strong></td>
<td><strong>66</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

Categorization of Scores

<table>
<thead>
<tr>
<th>Categorisation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>53 and above</td>
</tr>
<tr>
<td>Very Good</td>
<td>40 – 52</td>
</tr>
<tr>
<td>Good</td>
<td>27 – 39</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>14 – 26</td>
</tr>
<tr>
<td>Poor</td>
<td>13 and below</td>
</tr>
</tbody>
</table>
**Phase I - Face Validation**

This was the first stage in tool validation. In this stage/step, the researcher looked at the operational feasibility and checked whether prima facie it seemed like a good translation of the tool required for the present study.

**Phase II - Content Validation**

After an extensive review of related literature 72 statements were shortlisted for developing each checklist (3-4 years) and (4-6 years). These shortlisted statements were given to subject experts for scrutiny and review. The statements for scrutiny and review were presented in the following format to the subject experts.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Not relevant(score 1)</th>
<th>Relevant(score 5)</th>
<th>Aiken`s Index</th>
<th>Item-total correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Content validity was done with 5 subjects matter experts. Aiken’s index was performed on each item of Teachers Checklist ranging, for TC 3 – 4 years it is 0.533 – 0.800; and for TC 4 – 6 years it is 0.667 – 0.800.
Phase III - Reliability

Split-half reliability was carried out on Teachers checklist (for 3-4 years and 4-6 years), to obtain its reliability. Data obtained indicated the reliability score to be 0.798.

Tool 8: Participants feedback form

A simple questionnaire was developed to obtain the participants (mothers), feedback on the experimental program.

Tool 9: Intervention program evaluation questionnaire

Content evaluation, process evaluation and outcome evaluation checklist were developed to assess the influence of the intervention program. (Refer Appendix xi).

XI. Designing and Developing Modules for Intervention

Modules were developed drawing inputs from the following theories

Child Development Theories

- Psychoanalytic Theory
- Cognitive Theory
- Behaviourist theory
- Psychosocial Theory
- Maturational Theory.
Learning Theories

- Environmental Theory
- Constructivist Theory
- Social Learning Theory
- Multiple Intelligence Theory

Early Literacy Theories

- Behaviourist Theory
- Connectionist Theory
- Social Constructivist Theory
- Emergent Theory
The core components of the teaching modules were oral language development, phonological awareness, alphabet knowledge, print awareness, strategies to promote literary rich home environment, effective story telling techniques and importance of reading to children.
The modules were developed in a very systematic way to create interest and avoid monotony among mothers and, focused on

- Introduction
- Objectives
- Outcome
- Strategies
- Activities

For the intervention program, the researcher developed 50 modules which were scheduled to be completed in 101 sessions as presented below:

<table>
<thead>
<tr>
<th>#</th>
<th>Content</th>
<th># of Modules</th>
<th># of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Steps in promoting Literary development 0 -6 years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td><strong>Language development</strong></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>stages of language and literary development</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>strategies to work out for language development</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>promoting literature and language development</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>expanding vocabulary and word meaning</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>structured question and answer discussions</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>meaningful language related activities</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Phonological awareness</strong></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>2</td>
<td>• strategies for teaching phonics</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• phonemic manipulation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• words and sentences</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• awareness of syllables</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• initial and final sounds and sound matching</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• rhymes and songs for phonic clues</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• activities to enrich phonic development</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>Alphabet awareness</strong></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• alphabet principle</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• letter name knowledge</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• forming words and sentence</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• encourage writing centre</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• repeated exposure and varied experiences for building alphabet knowledge</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• activities to foster alphabet awareness</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Print awareness</strong></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• concept of print</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• environmental print</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• context and picture clues</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• access to print and books</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• activities to enrich print awareness</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Strategies to promote literary rich home environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance of reading to children with research-based studies</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>help parents become first teachers and involvement in school</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>provide a model for reading and writing</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>interactive story book reading</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>creating literary enriched home setting</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>motivating children to get interested in books and reading</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>providing with a wide variety of experiences</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>developing partnership with parents</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>planning literary enriched play centre</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>helping parents help their children learn</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>activities and practices to develop literary techniques</td>
<td>1</td>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Strategies for creating strong readers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>effective reading aloud techniques</td>
</tr>
<tr>
<td></td>
<td>effective story telling techniques</td>
</tr>
<tr>
<td></td>
<td>effective reading techniques</td>
</tr>
<tr>
<td></td>
<td>encouraging reading aloud to children</td>
</tr>
<tr>
<td></td>
<td>tips for learning and telling a story</td>
</tr>
<tr>
<td></td>
<td>tips for listening a story</td>
</tr>
<tr>
<td></td>
<td>tips for choosing appropriate books</td>
</tr>
<tr>
<td></td>
<td>activities to motivate children</td>
</tr>
<tr>
<td></td>
<td>Planning the daily schedule</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>preparing of physical environment</td>
</tr>
<tr>
<td>2</td>
<td>designing content area centres to accommodate individual needs</td>
</tr>
<tr>
<td>3</td>
<td>integrating literary learning into content area</td>
</tr>
<tr>
<td>4</td>
<td>organizing and managing literary instruction</td>
</tr>
<tr>
<td>5</td>
<td>plan, implement and evaluate literary strategies</td>
</tr>
<tr>
<td>6</td>
<td>a sample half day schedule</td>
</tr>
<tr>
<td>7</td>
<td>a sample full day schedule</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>
XII. Data Collection

Data collection for the present study was carried out in eight phases.
Phase 1 - Survey of pre-schools

Initially 60 pre-schools were identified in and around Bangalore city (north, south, west and east). From these 60 schools shortlisted, 30 pre-schools were randomly picked. Thus 9 Montessori, 8 Kindergarten, 8 Play-way and 5 Creches were identified for data collection (Refer sample selection-stage 1). The researcher personally, approached the Principal of each pre-school centre to obtain consent to carry out the survey in their respective pre-schools, using the Pre-school survey questionnaire developed in Phase 2. The Researcher initially established good rapport with each and every Preschool teacher in the pre-schools identified for the present study by talking to them about the research program and the need for such data collection. The developed questionnaire to obtain information on approaches adopted by their pre-school to foster literary skills among pre-schoolers was distributed to the preschool teachers and collected back after a week’s time. The researcher also observed a typical day’s program and the criteria that the teachers set to foster literary practices in their respective pre-school centres.

Phase 2 - Data collection for tool standardisation

To standardise the tools developed for the study, 550 mothers with pre-school children were identified. The researcher visited preschools, local neighbourhoods, and apartments to draw the required clusters for tool standardisation. Thus 25 pre-schools, (N= 376); 6 neighbourhoods, (N= 80); and 22 apartments, (N= 94) were drawn.
Phase 3 - Pre-Test Data Collection

In the pre-test phase of data collection, the tools developed during “Construction of Measuring Instrument” were administered to mothers identified to participate in the experimental program. The mothers were seated in the school auditorium, which was quiet and conducive for filling in the required data. The mothers were asked to relax. The Parents Literary awareness questionnaire was first distributed to the prospective participants of the experimental program.

The participants were assured that there were no right or wrong answers. They were also informed that there was no time limit to complete the checklist. The participants were requested to answer the checklist honestly.

After a ten minute gap, the participants were given the Home Literary environment checklist for filling. Similar instructions, as stated in the above paragraph were given to the participants. Doubts were clarified, as and when the participants raised them during the course of filling in the checklists.

After the completion of the Home literary environment checklist, the interest ranking inventory was given to the mothers for filling up. The parents were asked to identify their children’s interests and rank them according to their pre-schoolers preference in the inventory provided. No time limit was given for filling up the interest inventory.
Phase 4 - Data collection during the intervention phase

Through extensive review of literature and discussion with subject experts, the intervention program was drawn up for one academic year. Initially, a consent form was distributed to the parents of preschool children. In the consent form, a brief description of the research study, positive outcome of the study to the parents and children, and the schedule of the research work for one academic year was described. A consent form declaring that the participation was entirely voluntary was required to be given by the parents.

Seventy seven mothers of preschool children studying at Titan School attended the introductory session. During the introductory session, the outline of the proposed research study and schedule was once again communicated to the parents. The need for regular participation in the program was stressed upon. The participants were made aware of the role played by them in contributing to the research data. After the introductory session, Sixty five parents indicated their willingness to participate in the research program.

Among the sixty five participants, who chose to participate in the program, data of fifty mothers who were regular participants in the program and had not absented themselves even for a single session were included in the data which was used for the final analysis. The remaining 15 mothers had all missed either one, two or three sessions during the course of the intervention program and therefore they were not considered for final data analysis.
The mothers who indicated their willingness to participate in the experimental program were given the daily reading log templates, on a weekly basis. During the week, the mothers were expected to fill in the log on a daily basis and hand it over to the researcher at the end of the week.

**Phase 5 - Post test data collection**

The post test data was collected at the end of the intervention program. The same tools and procedure followed in the pre-test phase was used to elicit information on Parents literary awareness, home literary environment, and interest ranking inventory from the participants of the experimental program.

**Phase 6 - Preschool teachers’ feedback**

The teacher’s checklist developed in “Construction of Measuring Instrument” was given to the preschool teachers of children whose mothers had either attended or not attended the experimental program, to assess the influence of the experimental program on the literary development of preschoolers. Data of children whose mothers had attended the program was compared with those children whose mothers had not attended the experimental program to assess the influence of the experimental program.

Teachers’ interview: Researcher met the teachers of preschool children after the intervention program, to elicit information on the children and their mothers who attended the intervention program.
Phase 7 - Participants feedback on the intervention program

The mothers who had participated in the experimental program were asked to write down their experiences during the course of the intervention program. They were also asked to fill in a simple questionnaire developed by the researcher.

Phase 8 - Evaluation of the experimental program by peers and staff

All programs need constant evaluation to have good intervention results. Evaluation was an important consideration for the researcher from the outset and through the program. Setting objectives and planning activities paved the groundwork for the evaluation. A formal evaluation plan to track progress was strictly adhered to throughout the research program.

Content Evaluation of the research design and the modules developed for the intervention program were carried out through interactions with experts and by incorporating the modifications suggested by them.

A comprehensive evaluation design, which included both process evaluation and outcome evaluation, was used in the present research. Process evaluation was carried out consistently during the course of the program. This evaluation was carried out to monitor progress and provide feedback so that modifications could be made where needed, during the course implementation of the interactive intervention program. For conducting process evaluation in the
present research, a three pronged evaluation system was used which was as follows:

- Evaluation by the mothers
- Evaluation by an independent observer
- Evaluation by the staff of Titan school

Process evaluation is particularly important during the initial period of the intervention program. Once the program is established and accepted, it is important to plan for outcome evaluation. Outcome evaluation is designed to measure the extent to which the research program’s objectives are achieved. Both process and outcome evaluation are important to assess the extent to which objectives have been achieved and together provide a basis for evaluation of the research.

The outcome of the intervention program was measured through pre-test, post test data.

**Phase 9- Implementation of the Intervention Program**

Fifty mothers of preschool children studying at The Titan School who volunteered to participate in the intervention program were identified for the study. During the introductory interaction, the outline of the proposed research study and program schedule was communicated to the mothers. The parents were enthusiastic to get information about literary development and they posed many questions about their children’s academic progress. All their doubts were addressed by the
researcher at the start of the intervention program. The program was designed to be offered twice a week for one academic year.

The sessions were held twice a week on Tuesdays and Thursdays for two and a half hours per session. The first two sessions of the program were ice-breaking sessions, which the researcher used effectively to build a rapport with the mothers.

Each session started with an introduction of the topic supported by research based studies and evidences to highlight the importance of literary development in the preschool years. Plenty of meaningful opportunities to engage in literary activities, were demonstrated to mothers so that they could introduce them to their children on a daily basis. Every session was followed by discussions, clarifications and planning for the forth-coming sessions.

All the sessions had active participation between the researcher and mothers. Role playing was also encouraged by the researcher to provide first-hand experience to the mothers. The researcher introduced unique interactive activities that proved very successful with the mothers to drive home the concepts of a particular session.

Power-point presentations, video clippings, role-play and group activities were used to make the mothers understand the topic of the day that was being explained. This was followed by discussions between the researcher and the participant mothers on the topic covered. After each session hand-outs were given to the mothers as reference reading material for reading. The mothers had an opportunity to talk to the researcher on a one on one basis. The last 40
minutes in each session was allocated for preparation of material by mothers for fostering literary skills in the pre-schoolers. Mothers were introduced to developing materials like flash-cards, posters, calendar, flannel-board, story books etc. All these materials were developed with zero investment by the mothers using materials that they could find within their home, such as throw away cartons, newspapers, used calendars, notebooks etc.

To motivate active and alert participation from the mothers, rewards were planned for each session. The rewards consisted of story books, activity books for children, colour pencils, crayons, paint boxes, and creative activity kits etc. The winners were given the freedom to select their rewards from this assorted collection. During each session, items were added to the reward items to motivate active participation.

In the last session, the researcher organised a display of various books that were available for pre-schoolers in an exhibition format. The researcher also organised a display of the different creative materials developed by the participants during the course of the intervention program. The principal, Mrs. Sajeetha Bharathi and other pre-school teachers were invited to the exhibition. The program was addressed by the Titan school principal, and the researcher’s guide, Dr. M.S. Rajalakshmi. Researcher distributed thank-you gifts and participation certificates to the mothers who participated in the intervention program. Several new parents who had come to the exhibition requested the principal and the researcher to continue this researcher program for the following academic year as well. The exhibition
ended with an interactive session between the Principal, teachers, mothers and researcher to review the entire program.

After a break of two months, the researcher conducted a practical session with mothers for further two months. During the first introductory session with participating mothers, the researcher explained the practical session program schedule. It was followed by a small discussion on how the mothers need to get ready to narrate the stories in their children’s class room- the techniques, strategies and the activities they need to plan for the practical sessions. All the mothers were encouraged to participate in the story telling session. The children were excited to see their mothers in the class-rooms. The mothers narrated their prepared stories using tools and techniques that had been taught to them. The response from the children was totally encouraging to mothers and it was a grand success. At the end of the day’s story telling session, the researcher would review a recorded video of the session together with the mothers. Discussion focused on how each mother followed strategies while narrating their story and comments for future improvement. Evaluation sheet was filled by preschool teachers and the researcher to provide feedback about the preparation, planning presentations, story-telling techniques, materials and effectiveness of communication.
Sample Intervention Session Program Schedule

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Time</th>
<th>Program Schedule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10:00 – 10:30</td>
<td>Techniques to foster shared reading</td>
<td>Introduction to the topic and recap</td>
</tr>
<tr>
<td>2</td>
<td>10:30 – 11:00</td>
<td>Power point presentation</td>
<td>Research based studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interactive discussions</td>
</tr>
<tr>
<td>3</td>
<td>11:00 – 11:30</td>
<td>Creative story telling, role playing, dramatisation</td>
<td>Strategies and objectives of shared reading</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Relevant Activities</td>
</tr>
<tr>
<td>4</td>
<td>11:30 – 12:00</td>
<td>Outcome of shared reading</td>
<td>Researcher works with small groups on literary activities and word games</td>
</tr>
</tbody>
</table>

XIII. Data Reduction, Analysis and Interpretation

Statistical Methods: Descriptive statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean ± SD (Min- Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance. The following assumptions on data is made, Assumptions: 1. Dependent variables should be normally distributed, 2. Samples drawn from the population should be random, Cases of the samples should be independent

Analysis of variance (ANOVA) has been used to find the significance of study parameters between three or more groups of patients, Student t test (two tailed, independent) has been used to find the significance of study parameters on continuous scale between two groups Inter group analysis) on metric parameters, and Student t test (two tailed,
dependent) has been used to find the significance of study parameters on continuous scale with in each group. Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups. Effect size due to Cohen is computed to find the effect of intervention. Pearson correlation was performed to find the relationship between Parent literary environment and Home literary environment.

1. **Analysis of Variance: F test for K Population means**

Objective: To test the hypothesis that K samples from K Populations with the same mean.

The mathematical model that describes the relationship between the response and treatment for the one-way ANOVA is given by

\[ Y_{ij} = \mu + \tau_i + \epsilon_{ij} \]

where \( Y_{ij} \) represents the j-th observation (\( j = 1, 2, \ldots, n_i \)) on the i-th treatment (\( i = 1, 2, \ldots, k \) levels)

Limitations: It is assumed that populations are normally distributed and have equal variance. It is also assumed that samples are independent of each other.
Method. Let the jth sample contain nj elements (j=1, 2,…K). Then the total number of elements is

\[ N = \sum n_j \quad x. j = \sum \frac{x_{ij}}{n_j} \]

\[ S_1^2 = \frac{\sum_{i=1}^{n_1} (x_1 - \overline{x_1})^2}{N - K} \quad S_2^2 = \frac{\sum_{j=1}^{n_1} n_j(x_j - \overline{x})^2}{K - 1} \]

\[ F = \frac{S_2^2}{S_1^2} \] Which follows F distribution (K-1, N-K)

2. **Student t test (Two tailed, independent)**

Assumptions: Subjects are randomly assigned to one of two groups. The distribution of the means being compared are normal with equal variances.

Test: The hypotheses for the comparison of two independent groups are:

Ho: \( u_1 = u_2 \) (means of the two groups are equal)

Ha: \( u_1 \neq u_2 \) (means of the two group are not equal)

The test statistic for is t, with \( n_1 + n_2 - 2 \) degrees of freedom, where \( n_1 \) and \( n_2 \) are the sample sizes for groups 1 and 2. A low p-value for this test (less than 0.05 for example) means that there is evidence to reject the null hypothesis in favor of the alternative hypothesis. Or, there is evidence that the difference in the two means are statistically significant. The test statistic is as follows
t-Test: Two-Sample Assuming Equal Variances

**Pre-test: Test for variance assumption:** A test of the equality of variance is used to test the assumption of equal variances. The test statistic is F with \( n_1 - 1 \) and \( n_2 - 1 \) degrees of freedom.

**t-Test: Two-Sample Assuming Unequal Variances**

Note in this case the Degree of Freedom is measured by

\[
df^* = \frac{\left( \frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} \right)^2}{\frac{\left( \frac{s_1^2}{n_1} \right)^2}{n_1 - 1} + \frac{\left( \frac{s_2^2}{n_2} \right)^2}{n_2 - 1}}
\]

and round up to integer.
Results of the t-test: If the p-value associated with the t-test is small (< 0.05), there is evidence to reject the null hypothesis in favor of the alternative. In other words, there is evidence that the means are significantly different at the significance level reported by the p-value. If the p-value associated with the t-test is not small (> 0.05), there is not enough evidence to reject the null hypothesis, and you conclude that there is evidence that the means are not different.

3. Student t-test for paired comparisons

Definition: Used to compare means on the same or related subject over time or in differing circumstances.

Assumptions: The observed data are from the same subject or from a matched subject and are drawn from a population with a normal distribution.

Characteristics: Subjects are often tested in a before-after situation (across time, with some intervention occurring such as a diet), or subjects are paired such as with twins, or with subject as alike as possible.

Test: The paired t-test is actually a test that the differences between the two observations is 0. So, if $D$ represents the difference between observations, the hypotheses are:

$H_0$: $D = 0$ (the difference between the two observations is 0)

$H_a$: $D \neq 0$ (the difference is not 0)
The test statistic is $t$ with n-1 degrees of freedom. If the p-value associated with $t$ is low ($< 0.05$), there is evidence to reject the null hypothesis. Thus, you would have evidence that there is a difference in means across the paired observations.

$$t = \frac{(\bar{x}_1 - \bar{x}_2)}{s / \sqrt{n}}, \quad \text{where} \quad s = \sqrt{\sum (d_i - \bar{d})^2 / n - 1},$$

and $d_i$ is the difference formed for each pair of observations.

4. **Chi-Square Test**

The chi-square test for independence is used to determine the relationship between two variables of a sample. In this context independence means that the two factors are not related. In the chi-square test for independence the degree of freedom is equal to the number of columns in the table minus one multiplied by the number of rows in the table minus one

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}, \quad \text{Where} \quad O_i \text{ is Observed frequency and } E_i \text{ is Expected frequency}$$

With (n-1) df

The Assumptions of Chi-square test

The chi square test, when used with the standard approximation that a chi-square distribution is applicable, has the following assumptions:
• Random sample – A random sampling of the data from a fixed distribution or population.

• Sample size (whole table) – A sample with a sufficiently large size is assumed. If a chi square test is conducted on a sample with a smaller size, then the chi square test will yield an inaccurate inference. The researcher, by using chi square test on small samples, might end up committing a Type II error.

• Expected Cell Count – Adequate expected cell counts. Some require 5 or more, and others require 10 or more. A common rule is 5 or more in all cells of a 2-by-2 table, and 5 or more in 80% of cells in larger tables, but no cells with zero expected count. When this assumption is not met, Fisher Exact test or Yates' correction is applied.

5. Fisher Exact Test

The Fisher Exact Test looks at a contingency table which displays how different treatments have produced different outcomes. Its null hypothesis is that treatments do not affect outcomes-- that the two are independent. Reject the null hypothesis (i.e., conclude treatment affects outcome) if \( p \) is "small".

The usual approach to contingency tables is to apply the \( \chi^2 \) statistic to each cell of the table. One should probably use the \( \chi^2 \) approach, unless you have a special reason. The most common reason to avoid \( \chi^2 \) is because you have small expectation values.
\[
\sum p = \frac{(a+b)!(c+d)!(a+c)!(b+d)!}{n!} \cdot \frac{1}{\sum a!b!c!d!}
\]

6. **Pearson correlation and t-test of a correlation coefficient**

Objective: To investigate whether the difference between the sample correlation co-efficient and zero is statistically significant.

Limitations: It is assumed that the x & y values originates from a bivariate normal distribution and that relationship is linear. To test an assumed value of population co-efficient other than zero, refer to the Z-test for a correlation co-efficient.

\[
r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - x)^2 \sum (y - y)^2}}
\]

Spearman Correlation co-efficient

\[
r_s = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)}
\]

\[
t = \frac{r\sqrt{(n-2)}}{\sqrt{(1-r^2)}}
\]
is calculated and follows student t distribution with n-2 degrees of freedom.
7. Classification of Correlation Co-efficient (r)

Up to 0.1    Trivial Correlation
0.1-0.3     Small Correlation
0.3-0.5     Moderate Correlation
0.5-0.7     Large Correlation
0.7-0.9     Very Large Correlation
0.9- 1.0    Nearly Perfect correlation
1           Perfect correlation

8. Effect Size

\[ d = \frac{\text{mean}_1 - \text{mean}_2}{\text{PooledSD}} \]

No effect (N)         \( d<0.20 \)
Small effect (S)      \( 0.20<d<0.50 \)
Moderate effect (M)   \( 0.50<d<0.80 \)
Large effect (L)      \( 0.80<d<1.20 \)
Very large effect (VL) \( d>1.20 \)

9. Significant figures

+ Suggestive significance (P value: 0.05<P<0.10)
* Moderately significant (P value:0.01<P ≤ 0.05)
** Strongly significant (P value : P≤0.01)
**Statistical software used.**

The Statistical software namely SAS 9.2, SPSS 15.0, Stata 10.1, MedCalc 9.0.1, Systat 12.0 and R environment ver.2.11.1 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.